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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/648,706

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David M. Avant JR.

5651-5

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7590

06/29/2006

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EXAMINER

PAHNG, JASON Y

ART UNIT

PAPER NUMBER

3725

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/648,706

Applicant(s)

AVANT, DAVID M.

Examiner

Jason Y. Pahng

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claims 1, 10, and 17, there is no description of a temperature of the air stream maintained between 600 F and 900 F in the originally filed specification.

Applicant disclosed that Applicant's invention works fine in a single disclosed embodiment of a temperature range of 600 F to 1000 F at the time of the originally filed specification. Applicant's introduction of a temperature of the air stream maintained between 600 F and 900 F is a new alternative embodiment because Applicant did not have possession of a second embodiment of an alternative temperature range at the time of the originally filed specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Cadoret (US 2004/0129177).

With regard to claim 1, Cadoret discloses a method of processing crude clay ore including:

1. pulverizing the crude clay ore substantially simultaneously with drying ([0048] and [0066]); and
2. separating individual mineral particles [0001] into respective product streams [0019];

With regard to claim 6, Cadoret discloses separating individual mineral particles by particle size using a cyclone [0019].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cadoret (US 2004/0129177) in view of Admitted Acknowledged Prior Art (AAPA).

With regard to claim 1, Cadoret discloses a heated air stream with a temperature of 932 Fahrenheit or 500 Celsius [0012].

With regard to claim 2, Cadoret discloses a pulverizing dryer, but the rotating arms (18) are not paddle shaped. In a closely related art, AAPA discloses a pulverizing grinder (page 5) with paddles in order to improve pulverizing clay. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with a paddle shaped rotating arms in order to improve pulverizing clay, as taught by AAPA.

Claim 4 calls for a flow rate in the rate of 5,000 to 50,000 cfm for the heated air. It would have been obvious to one skilled in the art at the time the invention was made to use a flow rate in the rate of 5,000 to 50,000 cfm for the heated air, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 6, Cadoret discloses separating individual mineral particles by particle size using a cyclone [0019].

Claims 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cadoret (US 2004/0129177) in view of Garforth et al. (US 6,068,693).

Claim 5 calls for separating the mineral particles into sand, mica and kaolin product streams. Cadoret discloses separating the mineral particles into sand and

Art Unit: 3725

kaolin product streams ([0019] and [0066]). In a closely related art, Garforth discloses separating mica from kaolin in order to reduce impurities (column 1, lines 7-18).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with separating mica from kaolin in order to reduce impurities, as taught by Garforth.

Claims 7 and 9 call for an air classifier. Garforth teaches that air separation may be used for particles greater than about 325 mesh (column 1, lines 19-22) in order to reduce impurities. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with air separation for particles greater than about 325 mesh in order to reduce impurities, as taught by Garforth.

With regard to claim 8, Cadoret discloses separating sand particles via an air cyclone [0019]. Cadoret does not specifically recite that the value of the size of the sand particles are greater than about 100 mesh. It would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with the value of the size of the sand particles are greater than about 100 mesh, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cadoret (US 2004/0129177) in view of Admitted Acknowledged Prior Art (AAPA) as applied above, further in view of Garforth et al. (US 6,068,693).

With regard to claim 10, AAPA is applied as applied above regarding claim 2. Garforth is applied as applied above regarding claim 5. With regard to the grit content,

Art Unit: 3725

Cadoret discloses a grit content of about 5 % [0011]. Additionally, Cadoret discloses a heated air stream with a temperature of 932 Fahrenheit or 500 Celsius [0012].

Claims 12 and 17 call for a flow rate in the rate of 5,000 to 50,000 cfm for the heated air. It would have been obvious to one skilled in the art at the time the invention was made to use a flow rate in the rate of 5,000 to 50,000 cfm for the heated air, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claims 13 and 18, Cadoret discloses separating individual mineral particles by particle size using a cyclone [0019].

Claims 14, 16, 19, and 21 call for an air classifier. Garforth teaches that air separation may be used for particles greater than about 325 mesh (column 1, lines 19-22) in order to reduce impurities. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with air separation for particles greater than about 325 mesh in order to reduce impurities, as taught by Garforth.

With regard to claims 15 and 20, Cadoret discloses separating sand particles via an air cyclone [0019]. Cadoret does not specifically recite that the value of the size of the sand particles are greater than about 100 mesh. It would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with the value of the size of the sand particles are greater than about 100 mesh, since it has been held

Art Unit: 3725

that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 1, 2, 4-10, 12-21 are, alternatively, rejected under 35 U.S.C. 103(a) as being unpatentable over Luker (US 5,570,517) in view of Cadoret (US 2004/0129177) and Garforth et al. (US 6,068,693).

With regard to claims 1, 2, 5, and 10, Luker discloses a pulverizing dryer for processing ceramic slurry (column 1, lines 13-15) including:

1. injecting slurry into a heated air stream flowing through a dryer (column 4, lines 26-32);
2. the dryer comprises a plurality of rotating paddles (Figure 3); and
3. the air stream forces slurry through the plurality of rotating paddles to pulverize the slurry into individual mineral particles (column 4, lines 26-65).

Luker does not specifically recite that a crude clay having a grit content of about 5 percent is used. In a closely related art, Cadoret discloses a pulverizing dryer in order to process crude clay having a grit content of about 5 percent.

Luker also does not disclose separating individual mineral particles after the pulverizing drying step. Cadoret discloses separating sand [0019] in order to reduce impurities. In a closely related art, Garforth discloses separating mica from kaolin in order to reduce impurities (column 1, lines 7-18). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Luker with separating sand and mica from kaolin in order to reduce impurities, as taught by Cadoret and Garforth.



With regard to claims 1 and 10, Luker discloses air stream temperature in a range of 500 to 1200 Fahrenheit.

Claims 4, 12, and 17 call for a flow rate in the rate of 5,000 to 50,000 cfm for the heated air. It would have been obvious to one skilled in the art at the time the invention was made to use a flow rate in the rate of 5,000 to 50,000 cfm for the heated air, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claims 6, 13, and 18, Cadoret discloses using a cyclone [0019] in order to separate individual mineral particles by particle size.

Claims 7, 9, 14, 16, 19, and 21 call for an air classifier. Garforth teaches that air separation may be used for particles greater than about 325 mesh (column 1, lines 19-22) in order to reduce impurities. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Luker with air separation for particles greater than about 325 mesh in order to reduce impurities, as taught by Garforth.

Claims 8, 15, and 20 call for separating sand particles greater than about 100 mesh. Cadoret discloses an air cyclone in order to separate sand particles [0019]. As for the value of the size of the sand particles are greater than about 100 mesh. It would have been obvious to one skilled in the art at the time the invention was made to provide Cadoret with the value of the size of the sand particles are greater than about 100 mesh, since it has been held that discovering an optimum value of a result effective

Art Unit: 3725

variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

### ***Response to Arguments***

Applicant's arguments filed April 6, 2006 have been fully considered but they are not persuasive.

With regard to claims 1, 10, and 17 (page 7), Applicant disclosed that Applicant's invention works fine in a single disclosed embodiment of a temperature range of 600 F to 1000 F at the time of the originally filed specification. Applicant's introduction of a temperature of the air stream maintained between 600 F and 900 F is a new alternative embodiment because Applicant did not have possession of a second embodiment of an alternative temperature range at the time of the originally filed specification.

With regard to the Cadore reference (page 9), Application argues that Cadore does not disclose drying because Cadore discloses dehydroxylation. This is not true. Drying and dehydroxylation are not mutually exclusive. Disclosure of drying may not disclose dehydroxylation, but disclosure of dehydroxylation discloses drying.

With regard to the Cadoret reference (page 10), Applicant argues that Cadoret teaches away from Applicant's invention which is directed to removing impurities. This argument may be relevant to Applicant's invention which may or may not be allowable. However, this argument is not relevant to the claimed inventions. For example, regarding claim 2 in which Cadoret is applied, "removing impurities" is not claimed. Regarding claim 4, "removing impurities" is not claimed.

Art Unit: 3725

With regard to the Luker reference (page 10), Applicant argues that Luker does not disclose separating the individual mineral particles into respective product streams. That statement may be true. However, Luker is not relied to disclose separating the individual mineral particles into respective product streams. Thus, this argument is not relevant.

With regard to the Garforth reference (page 10), Applicant argues that Garforth teaches away from the "dry" process recited in claim 1. This is not true. First of all, Garforth is not relied upon to disclose a dry process of claim 1. Second, Garforth is relied for the teaching of separating mica from kaolin in order to reduce impurities (column 1, lines 7-18). Third, the supposed addition of some water by Garforth to produce slurry does not interfere or make it difficult to later process the operation of drying the slurry.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 3725


shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Y. Pahng whose telephone number is 571 272 4522. The examiner can normally be reached on 9:00 AM - 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571 272 4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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